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Research Article

A CLINICAL STUDY ON THE EFFECT OF *SHATAHWADI GHRITA* IN THE MANAGEMENT OF OPTIC ATROPHY

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ABSTRACT

Background and Objectives: Optic atrophy is an end stage condition where the optic nerve degenerates and leads to symptoms like vision loss. Objective of the present study was to evaluate the effect of *Shatahwadi ghrita* in the management of optic atrophy. **Methods:** 32 patients filling the inclusion criteria of optic atrophy were randomly selected for the study. Source of the data - Patients were selected from OPD and IPD of Shalakyatantra, S.D.M. College of Ayurveda and Hospital, Hassan. *Shatahwadi ghrita* was administered as *Aschyotana, Pratimarsha nasya* and *Ghrita pana*. Clinical signs and symptoms were given suitable scores according to its severity and assessed based on pre and post data gathered through pre-designed research proforma. The results having 'p' value less than <0.01 was considered to be statistically significant in this study. **Observation & Results:** The results were statistically analysed; it showed significant changes in contrast sensitivity, visual efficiency and retinal nerve fibre layer thickness. **Interpretation And Conclusion:** 1. *Shatahwadi ghrita* is found effective in the management of optic atrophy. 2. All the patients responded to the given treatment without any complications. 3. In most of the cases improvement found in contrast sensitivity, visual efficiency and retinal nerve fibre layer thickness.

INTRODUCTION

The science of life- Ayurveda is studied under eight different specialties also known as *Ashtangas* of Ayurveda. Amongst them *Shalakya Tantra* is given prime most importance as it deals with the *Jatrudhwarga vikaras* (diseases occurring above the clavicle) and its *Pancha- Jnanendriya adhisthana.*

As the famous author Hellen Kellen has quoted "Of all the senses, sight must be the most delightful." The eyes are considered as one of the most wonderful things as they help us to see the beauty of our world. Eyes are also a source of expression of our feelings of happiness, sadness, worries, etc. It is hence said that "The eyes are the mirror of the soul", hence we must protect our eyes from any diseases afflicting them.

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To emphasis more on the importance of eyes *Acahrya Vaghbhata* quotes:

"Sincere efforts should be made by every individual to preserve his/her vision till the last breath of life. Because for an individual who is blind, day and night are the same and this beautiful world is of no use to him even if he possesses a lot of wealth".

Optic Atrophy [OA], the term is applied to the condition of the optic disc following degeneration of the optic nerve. It is said to be primary if it occurs without any preceding optic nerve head oedema and secondary if it is preceded by oedema. It may also be described according to the underlying aetiology (i.e., whether this relates to primary disease of the retina or whether the problem originates at the level of the optic nerve)[1]. OA has prevalence of 3.24% in South India.[2]

OA is the end stage of a variety of causes of damage to the optic nerve anywhere along its length. There is most often no known cause; however, possible causes include direct trauma, pressure or toxic damage to the nerve, and nutritional deficiencies.[3]

The main clinical features are sudden or gradual loss of vision which is partial or total, visual field loss, diminished contrast sensitivity, dischromatopsia.[4]

Distance visual acuity (VA) is directly related to the minimum angle of separation (subtended at the nodal point of the eye) between two objects that allow them to be perceived as distinct. In optic atrophy as the optic nerve is affected the visual acuity will be less and followed by pinhole examination can give a broad diagnosis.[5]

Contrast sensitivity is a visual system to distinguish an object against its background. Target must be sufficiently large to be seen, but must also be of high enough contrast with its background. A light grey letter will be less well seen against a white background than a black letter. Contrast sensitivity represents a different aspect of visual function to that tested by the spatial resolution tests described above, which all use high-contrast optotypes.[6]

Assessment of colour vision is useful in the evaluation of optic nerve disease and in determining the presence of a congenitally anomalous colour defect.[7]

Even though there are no direct correlations for OA in Ayurveda, based on the *Nidana* and *Samprapthi* it can be considered as a *Tridoshaja netra roga*.

Pitta involved in *Dristi* is *Alochaka pitta* and *Vata* involved is *Prana Vayu* and *Kapha* involved is *Tarpaka kapha. Dristipatala* is the seat of *Alochaka pitta* and it receives *Indriyartha* in the presence of *Manas*. *Prana Vayu* controls this action. Thus, *Dristipatala* becomes the meeting point of *Prana Vayu, Alochaka pitta* and *Mana.* As a result of this union *Indriyarthasannikarshm* is performed[8]. So, when any of these *Doshas* is hampered due to various *Nidanas, Indriyartha Saanikarsha* does not happen and hence visual defect occurs.

In contemporary science there are no satisfactory treatments for OA, which enhances the importance of this study.

Hence a treatment protocol is designed in this study which focuses on *Tridoshahara* line of treatment and which provide nourishment to the optic nerve. *Aschyotana* is explained as the main line of treatment in any *Akshi roga* and *Ghrita pana* is explained as one of the first line treatments in all *Drishtigata rogas*. *Nasya* is explained as mainline of treatment in any *Urdhwajatrugata rogas*. Hence *Shatahwadi ghrita*[9] which is *Tridoshahara* and having *Timiraghna karma,* is administered in the form of *Aschyotana, Ghritapana* and *Pratimarsha nasya.*

As there are no previous studies done in Indian system of medicine on OA, this study may be a ray of hope for the health seekers with this condition. Hence this study is a sincere effort to explore the Ayurvedic management of OA.

OBJECTIVES

To evaluate the effect of *Shatahwadi ghrita* in the form of *Aschyotana, Pratimarsha nasya* and *Ghritapana* in improving the vision in OA.

MATERIALS AND METHODS

Source of Data

30 participants will be selected from In-patient department of Shalakya Tantra, Sri Dharmasthala Manjunatheshwara college of Ayurveda and Hospital, Hassan.

Methods of Collection of Data

A Minimum of 30 patients fulfilling the diagnostic criteria and inclusion criteria of either sex will be selected for the study.

A special case proforma containing all the necessary details pertaining to the study will be prepared.

The data obtained in both groups will be recorded, tabulated and statistically analysed using suitable statistical methods.

Diagnostic Criteria

Patient fulfilling all the below mentioned criteria.

1. Sudden or gradual loss of vision.
2. Palor optic disc is confirmed by colour fundus photography and direct ophthalmoscopy.
3. Average retinal nerve fibre layer thickness less than 75µm.

Assessment Criteria

Objective Parameters

1. Visual acuity with Snellen's chart
2. Fundal photography
3. Nerve fibre layer thickness in optical coherence tomography.

Subjective Parameters

1. Colour vision with *Ishihara* chart
2. Contrast sensitivity with pelli robinson chart

Inclusion Criteria

1. Participants willing to sign the informed consent form.
2. Participants diagnosed with primary and secondary OA
3. Participants aged between 20 to 70 years
4. Participants having visual acuity greater than or equal to positive perception of light.
5. Fundoscopic findings revealing pallor optic disc

Exclusion Criteria

1. Participants with visual acuity less than positive perception of light.
2. Pregnant women

Research Design

Data was collected using case report form (CRF) designed by incorporating all aspects (Ayurveda & modern medicine) for the study. Such collected data was tabulated and analyzed using SPSS (Statistical package for social sciences) version 23 by using appropriate statistical test. Demographic data and other relevant information were analyzed with descriptive statistics. Continuous data were expressed in mean +/- standard deviation, nominal and ordinal data was expressed in percentage.

ChochranQ test is used to analyze the significance of change in nominal data.

Mc Nemar is done for post Hoc on parameters which show significance in ChochranQ test, to interpret the time of significant change.

For ordinal data friedman test was used as primary test and wilcoxon sign ranked test is used as post hoc.

For continuous data Paired T test was done to know significance at BT and AT.

Interventions

Sample size: 30 participants

Drug: *Shatahwadi ghrita*

Table 1: Schedule of Assessment

S.No	Visits	IP (Day 1)	IP (Day 7)	Visit 1 (Day 22)	Visit 2 (Day 37)	Visit 3 (Day 52)
1	Visual Acuity	do	do	do	do	do
2	Colour Vision	do	do	do	do	do
3	Contrast Sensitivity	do	do	do	do	do
4	Fundal Photography	do				do
5	Optical Coherence Tomography	do				do

Duration of treatment: In-Patient treatment: 7 days

1st visit: 15th day after discharge

2nd visit: 30th day after discharge

3rd visit: 45th day after discharge

Total: 52 days

Source of Drug and Authenticity

Shatahwadi ghrita was procured from Vasudeva Vilasam Herbal Remedies [p] Ltd, Kazhakuttom, Thiruvananthapuram, Kerala.

In-Patient Department

Table 2: Treatment Protocol

S.No	Day No.	Treatment	Drug Used	Dose and Duration
1	1 to 7	*Aschyotana*	*Shatahwadi Ghrita*	10 drops to each eye twice daily
		Pratimarsha Nasya	*Shatahwadi Ghrita*	2 drops to each nostril twice daily
		Ghrita Pana	*Shatahwadi Ghrita*	10 gm bd after food with hot water

After Discharge [day 8 to 52]

1. *Ghritapana* with *Shatahwadi ghrita* 10 gram twice daily after food.
2. *Shatahwadi ghrita* as eye drops- 2 drops to each eye twice daily.
3. *shatahwadi ghrita* as nasal drops -2 drops to each nostril twice daily.

Aschyotana

Both eyes will be mopped with lukewarm water. 10 drops *Shatahwadi ghrita* will be instilled to each eye with a dropper and patient will be instructed to blink the eyes for 10 times and mopping will be done.

Netra bandhana will be done for 15 min.

Pratimarsha Nasya

The tip of the participant's nose is lifted up and 2 drops of lukewarm *Shatahwadi ghrita* will be administered in both the nostrils alternately

Showing Gradation index of Snellen's Visual acuity [7]

Table 3: Gradation Index

Snellen's Visual acuity (meter)	Snell – Sterling's visual efficiency (%)	Roman test type	Visual Efficiency (%)
6/6	100%	N6	100%
6/6 P	96%	N9	92.5%
6/9	91%	N12	50%
6/12	84%	N18	20%
6/12 P	76%	N24	15%
6/18	70%	N 36	10%
6/24	58%		
6/24 P	49%		
6/36	41%		
6/36 P	31%		
6/60	20%		
5/60	12.8%		
4/60	6.8%		
3/60	3.3%		
2/60	0.4%		
1/60	0.1%		

OBSERVATIONS

Demographic Data Observations

A total of 32 patients were screened and, were registered. Thus, 64 eyes (32 x 2) were registered. Among these 64 eyes, 51 eyes were diagnosed with optic atrophy. Hence only 51 eyes were included for the study and were observed. During the study there were 2 dropouts. Thus only 30 patients, i.e., 60 eyes, were analysed for the results.

Among 32 patients, only four patients (12.5%) were in the age group of 21-30 years, four patients (12.5%) were in the age group 31-40, two patients (6.3%) were in the age group of 41-50 years, nine patients (28.1) were in the age group of 51-60 years, ten patients (31.3%) were in the age group 61-70 years and three patients (12.5%) were in the age group of 71-80 years, seventeen patients (53.1%) were males and fifteen patients (46.9%) were females.6 (18.8%) patients were only diabetic, 13 (40.6%) were only hypertensive,1 (3.1%) was both diabetic and hypertensive, and 12(37.5%) patients were not diabetic or hypertensive 7 (21.9%) had a family history related to eye. 7 (21.9%) patients had history of consanguineous marriage

Ophthalmologic Data Observations

In right eye 27 (84.4%) patients had partial or total loss of vision and in left eye 21 patients had partial or total loss of vision In right eye 27 (84.4%) patients had sudden or gradual loss of vision and in left eye 21 patients had sudden or gradual loss of vision. 16 (50.5) had loss of vision since 1-5 yrs, 14 (43.8%) had loss of vision since 6-10 yrs and 2 (6.3%) had loss of vision since 11-15 yrs. 8 (25%) had loss of colour vision. 3 (9.4%) had sudden onset of symptoms and 29 (90.6%) had gradual onset of symptoms. 28 (87.5%) had progressive course of symptoms and 8 (12.5%) had stable course of symptoms. 10 (31.3%) patients were having symptoms only in right eye, 3 (9.4%) were having symptoms only in left eye, and 19 (59.4%) had symptoms in both eyes. 13 (40.6%) patients had symptoms unilaterally, and 19 (59.4%) had symptoms bilaterally.

In right eye 18 (56.3%) patients had normal pupillary shape and 14 (43.8%) had semi-dilated pupil and in left eye 20 (56.3%) patients had normal pupilary shape and 12 (43.8%) semi-dilated pupil. In right eye 8 (25%) patients had normal direct pupillary reaction 23 (71.9%) had sluggish direct pupillary reaction and for 1 (3.1%) pupilary reaction was absent and in left eye 31 (40.6%) patients had normal direct pupillary reaction, 19 (59.4) had sluggish direct pupillary reaction.

In right eye 25 (56.3%) patients had normal pupilary reaction and 7 (21.9%) had RAPD and in left eye 28 (87.5%) patients had normal pupilary reaction

and 4 (12.5%) had RAPD. In right eye 5 (56.3%) patients had normal optic disc colour and 27 (84.4%) had pale optic disc and in left eye 10 (31.3%) patients had normal optic disc colour and 22 (68.8%) had pale optic disc.

Among 64 eyes, 6 (9.37%) had 0.3 CD ratio, 34 (53.1%) had 0.4 CD ratio, 13 (20.3%) had 0.5 CD ratio, 9 (14.06%) had 0.6 CD ratio, 2 (3.1%) had 0.7 CD ratio.

Results on Colour Vision

Test Statistics	
N	30
Cochran's Q	.000
df	1
Asymp. Sig.	1.000

Table 4: Chochran and Mc Nemar test results of colour vision

	CV Day 1 & CV Day 7	**CV Day 7 & CV Day 22**	**CV Day 22 & CV Day 37**	**CV Day 37 & CV Day 52**
N	30	30	30	30
Exact Sig	1.000	1.000	1.000	1.000

- The Chocran Q test results on colour vision show that there is no change in the colour vision before and after the treatment. p>0.01, Q (1, N=30)=0.001
- Post hoc analysis with Mc Nemar test was conducted. There is no significant change in the colour vision during the treatment [p>0.01], which suggests that no change has occurred in the colour vision during the treatment.

Results on Contrast Sensitivity [Cs]

Friedman Test

Parameter	**N**	**X^2**	**P Value**	**Remarks**
Contrast sensitivity	30	86.644	0.001	S

Wilcoxon test Bonferroni correction =0.016

Table 5: Friedman and wilcoxon test results of contrast sensitivity

Parameter	**Negative ranks**			**Positive ranks**			**Ties**	**Total**	**Z value**	**P value**	**Remark**
Contrast sensitivity	**N**	**MR**	**SR**	**N**	**MR**	**SR**					
D1-D7	4	3.75	15	2	3	6	24	30	-1.000	.317	NS
D7-D22	0	0	0	17	9	153	13	30	-3.822	.001	S
D22-D37	0	0	0	13	7	91	17	30	-3.419	.001	S
D37-D52	0	0	0	2	1.50	3	28	30	-1.414	0.157	S
D1-D52	0	0	0	26	13.5	351	4	30	-4.608	0.001	S

- There was a significant increase in the mean value and mean rank of the contrast sensitivity before and after the treatment. During the course of treatment except in the second interval [day 7-day 22], in all other intervals there is significant improvement in the contrast sensitivity
- The Friedman test results indicates that, there was a significant improvement in the contrast sensitivity of the patients before and after the treatment which is statistically significant at the level of p<0.01, X^2 **(**4, n=30)=0.667.
- Post hoc analysis with Wilcoxon signed rank test was conducted with Bonferroni correction. From D1 to D7 CS improved in 2 subjects, reduced in 4 subjects and no change in 24 subjects which is not significant [Z=-1.00, P>0.01]. From D7 to D22 CS improved in 17 subjects, and no change was observed in 13 subjects which is significant [Z=-3.822, P<0.01]. From D22 to D37 CS improved in 13 subjects, and no change was observed in 17 subjects which is significant [Z=-3.419, P<0.01]. From D37 to D52 CS improved in 2 subjects, and no change was observed in 28 subjects which is significant [Z=-1.41, P<0.01].

Overall, from D1-D52 CS improved in 26 subjects and no change was observed in 4 subjects which is significant [Z=-4.608, P<0.01].

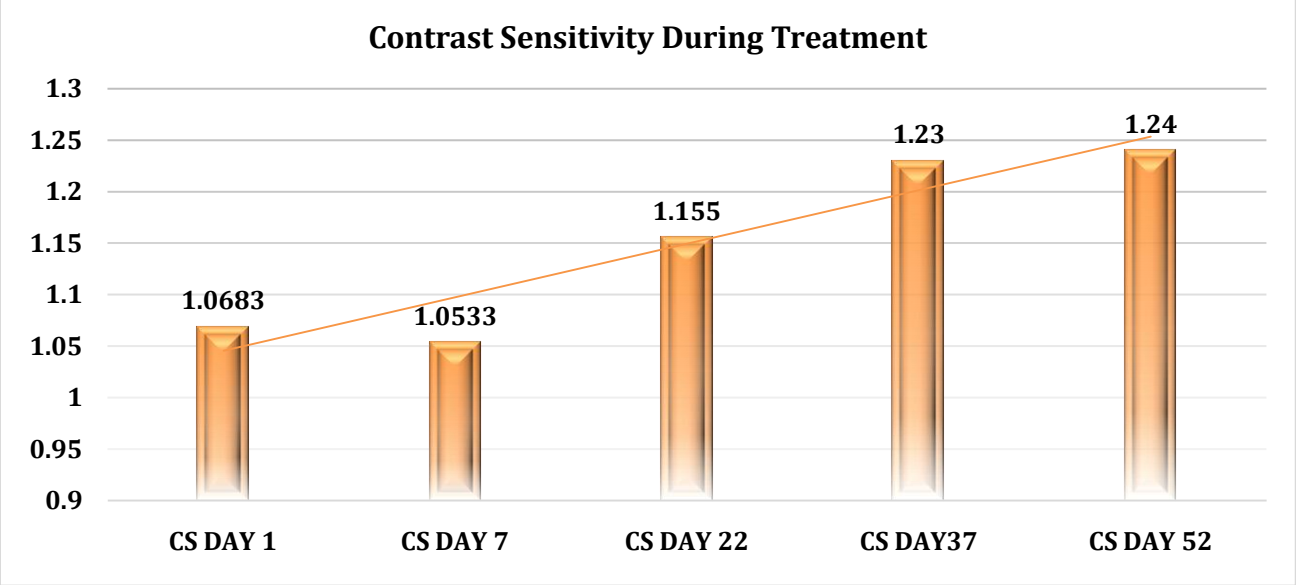

Chart no. 1

Results on Visual Acuity

Friedman Test

Parameter	N	X^2	P Value	Remarks
Visual acuity	47	119.584	0.001	S

Wilcoxon test Bonferroni correction =0.016

Table 6: Friedman and wilcoxon test results of visual acuity

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Remark
Visual acuity	N	MR	SR	N	MR	SR					
D1-D7	0	0	0	24	12.5	300	23	47	-4.289	.001	S
D7-D22	1	1	1	14	8.5	119	32	47	-3.358	.001	S
D22-D37	0	0	0	15	8	120	32	47	-3.415	.001	S
D37-D52	0	0	0	13	7	91	34	47	-3.207	.001	S
D1-D52	0	0	0	38	19.5	741	9	47	-5.379	.001	S

- There was a significant increase in the mean value [23.230-38.632] and mean rank of the visual acuity before and after the treatment. During the course of treatment in all intervals there is significant improvement in the contrast sensitivity
- The Friedman test results indicates that, there was a significant improvement in the visual acuity of the patients before and after the treatment which is statistically significant at the level of $p<0.01$, X^2 (4, n=30)=119.584.
- Post hoc analysis with Wilcoxon signed rank test was conducted with Bonferroni correction. From D1 to D7 VA improved in 24 subjects, and no change in 23 subjects which is statistically significant [Z=-4.289, P<0.01]. From D7 to D22 VA improved in 14 subjects, reduced in 1 subject and no change was observed in 32 subjects which is significant [Z=-3.358, P<0.01]. From D22 to D37 VA improved in 15 subjects, and no change was observed in 32 subjects which is significant [Z=-3.415, P<0.01]. From D37 to D52 VA improved in 13 subjects, and no change was observed in 34 subjects which is statistically significant [Z=-3.207, P<0.01].
- Overall, from D1-D52 VA improved in 38 subjects and no change was observed in 9 subjects which is statistically significant [Z=5.379, P<0.01].

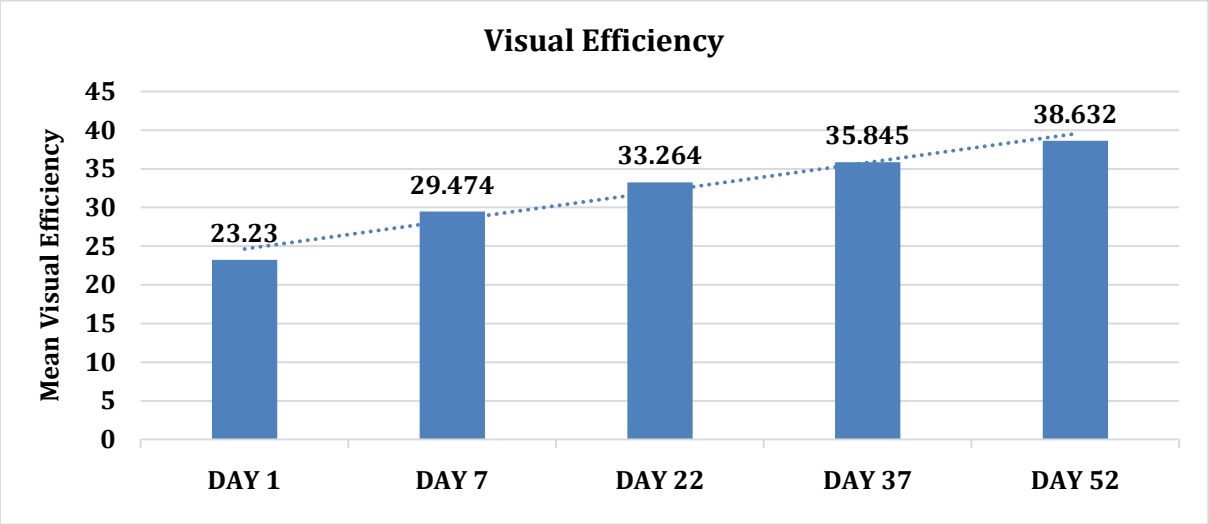

Chart no 2

Results on Near Vision

Friedman Test

Parameter	N	X^2	P Value	Remarks
Near Vision	30	29.571	0.001	S

Wilcoxon test Bonferroni correction =0.016

Table 7: Friedman and wilcoxon test results of Near vision

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Remark
Near Vision	N	MR	SR	N	MR	SR					
D1-D7	0	0	0	1	1	1	29	30	1.000	.317	NS
D7-D22	0	0	0	5	3	15	25	30	2.060	.039	NS
D22-D37	0	0	0	3	2	6	27	30	-1.633	.102	NS
D37-D52	0	0	0	1	1	1	29	30	-1.000	.317	NS
D1-D52	0	0	0	10	5.5	55	20	30	-2.829	.005	S

- There was a significant increase in the mean value [56.950-63.367] and mean rank of the pin hole before and after the treatment.
- The Friedman test results indicates that, there was a significant improvement in the pin hole of the patients before and after the treatment which is statistically significant at the level of $p<0.01$, X^2 (4, n=30)= 29.571.
- Post hoc analysis with Wilcoxon signed rank test was conducted with Bonferroni correction. From D1 to D7 PH improved in 1subjects, and no change in 29 subjects which is not significant [Z=1.000, P>0.01]. From D7 to D22 PH improved in 5 subjects, and no change was observed in 25 subjects which is not significant [Z=2.060, P>0.01]. From D22 to D37 PH improved in 3 subjects, and no change was observed in 27 subjects which is not significant [Z=-1.633, P>0.01]. From D37 to D52 PH improved in 1 subject, and no change was observed in 29 subjects which is significant [Z=1.00, P>0.01].
- Overall, from D1-D52 PH improved in 10 subjects and no change was observed in 20 subjects which is significant [Z=-2.829, P<0.01].

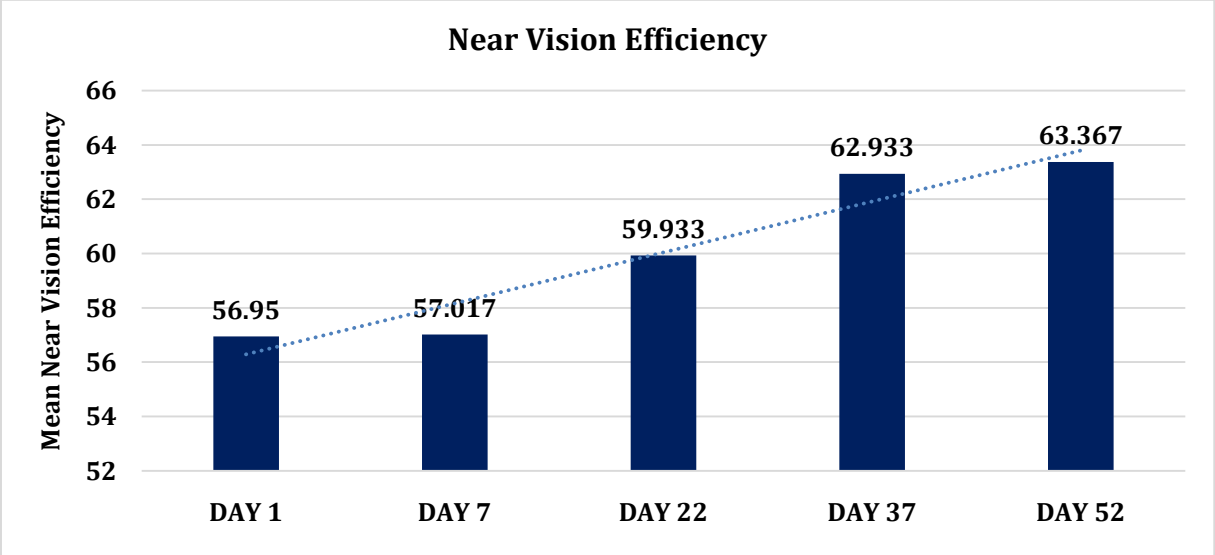

Chart no 3

Results on OCT RNFL Thickness

Paired Samples Statistics

Table 8

	Mean	N	Std. Deviation	Std. Error Mean
OCT BT	68.5098	47	27.75175	4.04801
OCT AT	75.0768	47	27.51119	4.01292

Paired Samples correlation

Table 9

		N	Correlation	Sig.
	OCT RNFL Thickness day 1 OCT RNFL Thickness day 52	47	.914	.0001

Paired Sample Tests

Table 10

	Paired Differences					
OCTBT-OCT AT	Mean	Std. Deviation	Std. Error Mean	t	df	P value
	-6.56702	11.44352	1.66921	-3.934	46	.0001

Paired t test showed significant improvement in the value of RNFL thickness before and after the treatment with a mean difference of 6. 56702. The mean RNFL thickness improved from 68.5098 to 75.0768 from day 1 to day 52 which is statistically significant at the level of P<0.01.

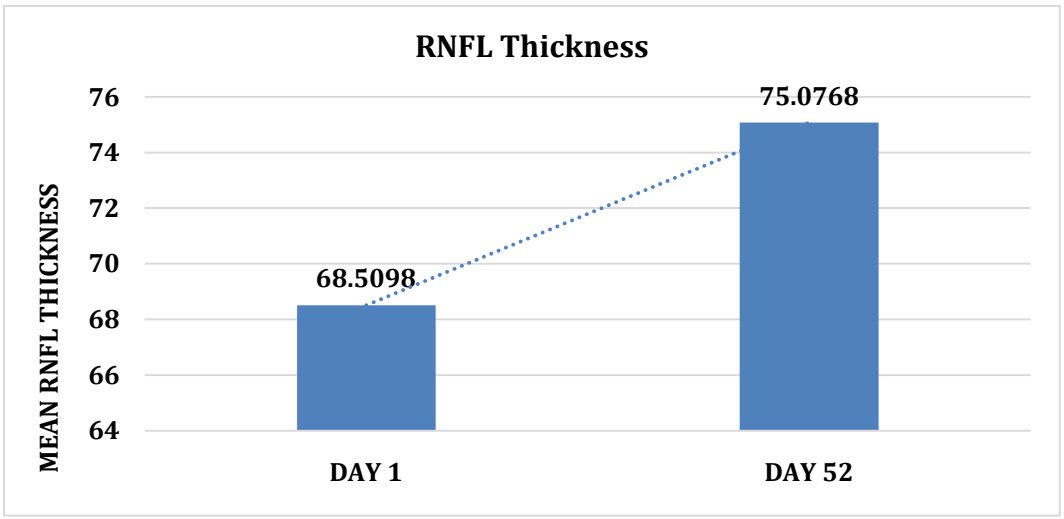

Chart no 4

DISCUSSION

Age: Maximum numbers of patients (31.1%) were belonging to the age group of 61-70 years followed by 29.0% to the age group of 51-60 years and 12.5% to the age group of 31-40 years and 9.5% belonged to the age group 71-80.

In this study it shows that there is increased incidence of optic atrophy in the old age (60-80 yrs). The possible explanation is that *Dhatukshaya* and *Indriya vishaya grahana asamarthya* occur by the influence of *Kala swabhava* and it may be a cause to initiate presbyopic changes at this age group. And moreover optic atrophy is an end stage condition, so people who have other retinal disorders or lifestyle related ocular disorders will reach the stage of optic atrophy by this period.

Duration: Maximum number of (50%) patients had symptoms since 6-10 years, 40% of patients had from 1-5 yrs, and 10 percent had symptoms from 10-15 yrs. From this it is clear that the patients had long standing chronic ocular problems which go hand in hand with the pathology of the disease.

Onset of Symptoms: In the study 90.6% patients had gradual onset of symptoms. As mentioned earlier optic atrophy is an end stage condition and this observation shows that it is relevant and supports the fact that optic atrophy is the culminating point of other ocular disorders.

Course of Symptoms: In the study 87.5% patients had progressive course of symptoms which shows that it is a chronic condition and the condition worsens as the time passes and if the proper care is not taken at correct time.

Laterality: Both eyes are almost equally affected. This is because optic atrophy affects both eyes equally although one eye may be involved earlier than the other

Shape of Pupil: Among 32 patients 56.5% patients had normal shaped pupil and 43.8% had semidilated pupil. This can be because of the fact that in some cases based on the severity of the disease, it can affect the pupilary reflex pathway leading to impaired constriction of the pupil.

Direct Pupilary Reaction: Among 32 patients 71.9% had sluggish pupilary reaction. This is because damage to the optic nerve can hamper the pupilary reflex pathway hence based on the severity and damage the reaction becomes sluggish.

Colour of Optic Disc: Among 64 eyes 49 eyes were having a pale optic disc. This is one of the most important signs of optic atrophy. Normally, the optic disc has a pinkish color because of the dense network of small blood vessels and healthy nerve fibers that reflect light. However, in optic atrophy, the nerve fibers that makes up the optic nerve degenerate, leading to a reduction in the amount of these reflective structures. As the nerve fibers degenerate, they are replaced by glial tissue, which does not reflect light as well as healthy nerve tissue. Additionally, there is a reduction in the blood supply to the optic disc, further contributing to its pale appearance.

Probable Mode of Action of *Shatahwadi Ghrita*

- Here in OA due to various above mentioned causes the optic nerve impulses are not transferred to the visual cortex which shows the impairment of *Vata dosha* and as a result the optic nerve is not nourished which shows the impairment of *Kapha,* and *Pitta* is the *Sthanika dosha* in *Netra* which shows the involvement of *Pitta* also.
- The clinical trial drug *Shatahwadi Ghrita* has predominance of *Snigdha, Guru, Sthira guna* which does the *Poshana* of the *Drishti mandala.*
- The *Vatakaphahara* property of *Shathahwa*, *Ashwagandha, Sarala, Pippali*, *Devadaru* would have corrected the deranged *Vata* and *Tarpaka kapha.*
- Due to its *Sheeta guna ghrita* mitigates *Pitta*, due to *Snigdha* it mitigates *Vata* and due to processing with other medicinal herbs it mitigates *Kapha*.
- The *Rasayana*, *Bruhmana* and *Chakshushya karma* of the drug helps in the nourishment of the optic nerve.

CONCLUSION

- Optic atrophy [OA], the term is applied to the condition of the optic disc following degeneration of the optic nerve.
- The main clinical features are sudden or gradual loss of vision which is partial or total, visual field loss, diminished contrast sensitivity, dyschromatopsia.
- Even though there are no direct correlations for OA in Ayurveda, based on the *Nidana* and *Samprapthi* it can be considered as a *Tridoshaja Netra roga*.
- Hence a treatment protocol is designed in this study which focuses on *Tridoshahara* line of treatment and which provide nourishment to the optic nerve. Hence *Shatahwadi ghrita* which is *Tridoshahara* and having *Timiraghna karma,* is administered in the form of *Aschyotana, Ghritapana* and *Pratimarsha nasya.*
- Interventions were well tolerated in present study and there were no any adverse events reported during the study.
- So, the null hypothesis can be rejected, and the research hypothesis can be accepted.

REFERENCES

1. Optic Atrophy. Medical information for Optic atrophy | Patient [Internet]. [cited 2022 Sep 13].
2. Rao DB, Krishna CB. Epidemiology of Optic Atrophy among the Patients Attending a Tertiary Care Hospital, Ongole, Prakasham District, AP. 2016; 3(11)
3. A.K Khurana and Indu Khurana, Anatomy and physiology of eye CBS Publishers and Distributors Pvt. Ltd, New Delhi, 2nd edition Pg: 166-300 Pp:603
4. Sihota ramanjith, Tandon radhika. In: Diseases of The Eye. 22nd ed. Elsevier; p. 362
5. Impairments NRC (US) C on DD for I with V, Lennie P, Hemel SBV. Tests of Visual Functions. In: Visual Impairments: Determining Eligibility for Social Security Benefits [Internet]. National Academies Press (US); 2002 [cited 2024 Sep 22]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK207559
6. Kaur K, Gurnani B. Contrast Sensitivity. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 [cited 2024 Sep 22]. Available from: http://www.ncbi.nlm.nih.gov/books/NBK580542
7. Vision NRC (US) C on. COLOR VISION TESTS. In: Procedures for Testing Color Vision: Report of Working Group 41 [Internet]. National Academies Press (US); 1981 [cited 2024 Oct 15]. Available from:https://www.ncbi.nlm.nih.gov/books/NBK217823
8. Ashwini MJ, Srilakshmi CG. A Critical review on Shatahwadi Ghrita- an Ayurvedic Formulation. EPRA International Journal of Multidisciplinary Research (IJMR). 2024 May 28; 10(5): 789-92.
9. Krishnan Vaidyan Gopala Pillai. In: Sahasra Yogam. 33rd ed. Alappuzha: Vidyarambham Publishers; 2015. p. 396.

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